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Twelve zone-tailed hawk (*Buteo albonotatus*) nest sites in eight territories were studied in northcentral New Mexico during 1990–92 to determine the nesting chronology, nesting habitat, diet and productivity of a population that is at the limit of the species' distribution. Zone-tailed hawks arrived on the study area from late March to early April and their breeding season ended in mid-late September when the family unit left the nesting territory. All nest stands were in ponderosa pine (*Pinus ponderosa*) forests located in steep canyon bottoms or slopes and frequently in close proximity to cliffs. Stand basal area averaged 23.8 m²/ha and % canopy closure averaged 69.2% ($N = 10$). Nest trees were large, averaging 23.8 m in height and 59.8 cm dbh ($N = 8$). The diet consisted of a mixture of mammalian, avian and reptilian prey species that are common in the study area. During 1990 and 1991 only one of six known territories successfully fledged two and one young, respectively. During 1992 two new territories were located and these were the only successful nests (fledged one and two young). We suggest that the low productivity we observed during the 3 yr of the study is representative of the population productivity and is not an anomaly due to small sample sizes. We suggest that this pattern is typical of populations at range margins and occurs because (1) the birds are nesting in marginal habitat, and/or (2) the population was founded by a few individuals with philopatric young and is exhibiting inbreeding depression.

COMMUNAL ROOSTS: SEASONAL DYNAMICS OF A WHITE-TAILED KITE POPULATION IN THE SACRAMENTO VALLEY, CALIFORNIA

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We studied 10 communal roosts of white-tailed kites (*Elanus leucurus*) in a 900 km² area of the Sacramento Valley, California. The objectives were to examine the annual temporal dynamics of roost use and roosting behaviors and to analyze habitat characteristics of roosts using AtlasTM, a geographic information system. In June 1993 first year birds began arriving at roosts with adult escorts. Roosts were observed 4–7 nights/wk. Three roosts were in suburban habitat, four were in deciduous orchards, and three were in natural vegetation. Kites aggregated into two to three large roosts in the fall and winter ($N = 30$ –95) and gradually dispersed into more numerous, less populous roosts (10 with $N = 10$ at each) in the breeding season. In the winter kites came from <1–50 km away. Telemetry on five kites aided in tracking inter-roost shifts. Kites are

very loyal to roosts despite frequent human disturbances. Behaviors associated with roosting changed dramatically with season. Roosts were evenly spaced in winter (2.5 km apart) but in spring became centered near nests. Bird species which roosted with kites include northern harriers (*Circus cyaneus*), herons and egrets (*Ardeidae* spp.), and American crows (*Corvus brachyrhynchos*). Pre-roost staging, soaring, ground perching, and hunting were behaviors associated with fall and winter roosts. Eruptions in which groups of kites ($N = 5$ –50) departed abruptly in the same direction, occurred only in December and January. Based on telemetry and banding data, there are sexual shifts in roost attendance. Communal roosting is postulated to have distinct social contexts for individuals, sexes, and families at different times of the year.

A SUMMARY OF THE FIRST FIVE YEARS OF RAPTOR MIGRATION COUNTS AT DINOSAUR RIDGE, COLORADO

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We have counted migrating raptors at Dinosaur Ridge located 19 km west of downtown Denver, Colorado, each spring since 1990. Dinosaur Ridge is staffed jointly by the Denver Museum of Natural History and The Colorado Bird Observatory and is one of only two spring migration count sites currently operated in the southwestern US. As many as 18 raptor species totaling 5443 individuals have been identified at the site in a single season. The most frequently observed species are the red-tailed hawk (*Buteo jamaicensis*), and American kestrel (*Falco sparverius*), but moderate numbers of bald eagles (*Haliaeetus leucocephalus*), golden eagles (*Aquila chrysaetos*) and ferruginous hawks (*Buteo regalis*) are also recorded. The consistent productivity of Dinosaur Ridge, together with its proximity to a large metropolitan area, provide great opportunities for research, monitoring and environmental education.

WHEN JUVENILES LOOK LIKE ADULTS—GRAY COOPER'S HAWKS IN THE SAN FRANCISCO BAY AREA

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In the 1993 breeding season, an unusually pale gray-breasted adult male Cooper's hawk (*Accipiter cooperii*) was discovered nesting in an urban park in Alameda County, California. The 1994 nesting was monitored closely as the pale gray male mated with a normally plumaged female. Three of four resulting young had gray backs and breast-